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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/082,191

02/26/2002

Yuji Ariyoshi

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07/23/2004

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EXAMINER

MACK, COREY D

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 07/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/082,191

Applicant(s)

ARIYOSHI, YUJI

Examiner

Corey D. Mack

Art Unit

2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-8 is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation “maintain an *average* of the first temperature measured by the upstream temperature sensor and the second temperature measured by the downstream temperature sensor *at a fixed temperature*.” It is unclear from the claim what type of average is being maintained. Does the circuit maintain an average temperature difference between the two sensors? Does it maintain each sensor at an average temperature that is independent of the other sensor? This is unclear from the claim and therefore the claim is rendered indefinite.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawai, et al. (US 5,965,811).
 - A. With respect to Claim 1, Kawai, et al. disclose a flow measuring apparatus comprising a heating member 4; an upstream temperature sensor 5 located at an upstream side of the heating

Art Unit: 2855

member for measuring a first temperature; a downstream temperature sensor 6 located at a downstream side of the heating member for measuring a second temperature; and a circuit for controlling and maintaining the temperature of the heating member based on sensed flow conditions (column 6, lines 30-44). Kawai does not explicitly disclose that the circuit maintains the average of the first and second temperature sensors at a fixed temperature. However, those of ordinary skill in the art would recognize that maintaining a constant temperature difference between the heating element and the sensed air temperature would result in the average temperature difference of the first and second temperature sensors being maintained at a fixed temperature. (See MPEP § 2144.03). Therefore, at the time the invention was made, it would have been obvious to one of ordinary skill in the art to include in Kawai maintaining the average temperature between the first and second temperature sensors at a fixed temperature.

B. With respect to claim 2, Kawai, et al. discloses that the flow of the fluid is calculated from the difference between the first temperature measured by the upstream temperature sensor calculated from the difference between the first temperature measured by the upstream temperature sensor 5 and the second temperature measured by the downstream temperature sensor 6 (column 6, line 65 - column 7, line 15).

C. With respect to Claim 3, Kawai, et al. disclose an upstream heating member 11 located between the heating member 4 and the upstream temperature sensor 5 for generating heat based on power supplied to the upstream heating member and controlled by the circuit; and a downstream heating member 11 located between the heating member 4 and the downstream temperature sensor 6 for generating heat based on power supplied to the downstream heating member and controlled by the circuit, wherein the circuit controls the power supplied to the

Art Unit: 2855

upstream heating member and to the downstream heating member to maintain the first temperature measured by the upstream temperature sensor and the second temperature measured by the downstream temperature sensor substantially equal and the flow of the fluid is measured based on the difference between the respective powers (column 18, lines 4-29).

D. With respect to Claim 4, Kawai, et al. disclose that the circuit modifies the fixed temperature based on temperature of the fluid (column 6, line 30 - column 7, line 24).

E. With respect to Claim 5, Kawai, et al. disclose the circuit modifies the fixed temperature based on the flow of the fluid (column 6, line 30 - column 7, line 24).

Allowable Subject Matter

5. Claims 6-8 are allowed.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tanimoto, et al. (US 6,729,183) discloses a thermal fluid flow sensor that teaches maintaining a fixed temperature difference between first and second fluid flow sensors.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Response to Arguments

8. Applicant's arguments filed 28 April 2004 have been fully considered but they are not persuasive. Applicant argues that Kawai, et al. does not disclose the claimed control circuit. However, as outlined in the rejection above, the circuit disclosed by Kawai would perform the claimed circuit function and would have been recognized as such by those of ordinary skill in the art. Also, the operation of this circuit function is more clearly outlined in Tanimoto, et al. (US 6,729,183), which is cited to explain this function. Therefore, the rejection is reasserted.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey D. Mack whose telephone number is (571) 272-2181. The examiner can normally be reached on M-F, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Art Unit: 2855

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CDM

Corey D. Mack, Esq.
Patent Examiner
Art Unit 2855

July 12, 2004


EDWARD LEEKOWITZ
SUPERVISORY PATENT EXAMINER
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